SEQUENCE LISTING

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<110> Fraunhofer Gesellschaft zur Förderung der angewandten Forschung
e.V.
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ggt tcc act ggt gac tct aga atg gtc cag gcc tcg atg agg agc cca
Gly Ser Thr Gly Asp Ser Arg Met Val Gln Ala Ser Met Arg Ser Pro
                                  25
 aat atg gag acg ttc aaa cag cag aag gtg gag gac ttt tat gat att
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Asn Met Glu Thr Phe Lys Gln Gln Lys Val Glu Asp Phe Tyr Asp Ile
 gga gag gag ctg ggc agt ggc cag ttt gcc atc gtg aag aag tgc cgg
                                                                    192
 Gly Glu Glu Leu Gly Ser Gly Gln Phe Ala Ile Val Lys Lys Cys Arg
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gag Glu 65	aag Lys	agc Ser	acg Thr	gly ggg	ctg Leu 70	gag Glu	tat Tyr	gca Ala	gcc Ala	aag Lys 75	ttc Phe	att Ile	aag Lys	aag Lys	agg Arg 80	240
cag Gln	agc Ser	cgg Arg	gcc Ala	agc Ser 85	cgt Arg	cgg Arg	ggc Gly	gtg Val	tgc Cys 90	cgg Arg	gag Glu	gaa Glu	atc Ile	gag Glu 95	cgg Arg	288
gag Glu	gtg Val	agc Ser	atc Ile 100	ctg Leu	cgg Arg	cag Gln	gtg Val	ctg Leu 105	cac His	ccc Pro	aac Asn	atc Ile	atc Ile 110	acg Thr	ctg Leu	336
cac His	gac Asp	gtc Val 115	tat Tyr	gag Glu	aac Asn	cgc Arg	acc Thr 120	gac Asp	gtg Val	gtg Val	ctc Leu	atc Ile 125	ctt Leu	gag Glu	cta Leu	384
gtg Val	tcc Ser 130	gga Gly	gga Gly	gaa Glu	ctg Leu	ttt Phe 135	gat Asp	ttc Phe	ctg Leu	gcc Ala	cag Gln 140	aag Lys	gag Glu	tcg Ser	tta Leu	432
agt Ser 145	Glu	gag Glu	gaa Glu	gcc Ala	acc Thr 150	agc Ser	ttc Phe	att Ile	aag Lys	cag Gln 155	atc Ile	ctg Leu	gat Asp	Gly ggg	gtg Val 160	480
aat Asn	tac Tyr	ctt Leu	cac His	aca Thr 165	aag Lys	aaa Lys	att Ile	gct Ala	cac His 170	Phe	gat Asp	ctc Leu	aag Lys	cca Pro 175	gaa Glu	528
aac Asn	atc Ile	atg Met	ttg Leu 180	Leu	gac Asp	aag Lys	aat Asn	atc Ile 185	Pro	att Ile	cca Pro	cac	ato Ile 190	Lys	ctg Leu	576
att Ile	gac Asp	ttt Phe 195	Gly	ctg Leu	gct Ala	cac His	gaa Glu 200	Ile	gaa Glu	gat Asp	gga Gly	gtt Val 205	. Glu	ttt Phe	aaa Lys	624
aac Asr	att 11e 210	Phe	ggg Gly	aca Thr	cct Pro	gaa Glu 215	Phe	gtt Val	gct Ala	cca Pro	gaa Glu 220	Ile	gtg Val	aac Asr	tat Tyr	672
gag Glu 225	ı Pro	cto Lev	g gga ı Gly	ctg Lev	gag Glu 230	ı Ala	gac Asp	ato Met	tgg Tr	g ago Ser 235	: Ile	gga Gly	a gto ⁄Val	ato Ile	acc Thr 240	720
tat Tyi	ato Ile	c ctt e Lei	cta 1 Leu	a agt 1 Ser 245	: Gly	gcg Ala	tco Ser	e ccc	Phe 250	e Lev	g gga ı Gly	gao Asp	c aca o Thi	a aaa C Lys 255	a caa s Gln s	768
gaa Glu	a aco	c cto	g gca ı Ala 260	a Asr	ato n Ile	act Thi	gct Ala	gtg Va: 265	l Se	t tac r Ty	c gad r As <u>r</u>	ttt Phe	gat a Ası 270	Gli	g gaa ı Glu	816
tto Phe	c tto e Pho	c age e Se: 27!	r Gl	g aca	a ago	gag Gli	g cto 1 Let 280	ı Ala	c aag a Lys	g gad s Asj	c tto p Phe	28!	e Arg	g aag g Ly:	g ctt s Leu	864

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ctt Leu	gtg Val 290	aaa Lys	gag Glu	acc Thr	cgg Arg	aaa Lys 295	cgg Arg	ctt Leu	acc Thr	atc Ile	caa Gln 300	gag Glu	gct Ala	ctc Leu	aga Arg	912
cat His 305	ccc Pro	tgg Trp	atc Ile	gga Gly	tcc Ser 310	aaa Lys	cta Leu	gct Ala	gag Glu	cac His 315	gaa Glu	ggt Gly	gac Asp	gcg Ala	gcc Ala 320	960
cag Gln	ccg Pro	gcc Ala	atg Met	gcc Ala 325	cag Gln	gtc Val	aag Lys	ctg Leu	cag Gln 330	gag Glu	tca Ser	glà aaa	act Thr	gaa Glu 335	ctg Leu	1008
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tac Tyr 385	Asn	cag Gln	aaa Lys	ttc Phe	aag Lys 390	gac Asp	aag Lys	gcc Ala	aca Thr	ttg Leu 395	Thr	gca Ala	gac Asp	aaa Lys	ser 400	1200
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gca Ala	gto Val	tat Tyr	tac Tyr 420		gca Ala	aaa Lys	aag Lys	aca Thr 425	Thr	cag Gln	act Thr	acg Thr	tgg Trp 430	Gly	ttt Phe	1296
cct Pro	ttt Phe	tgg Trp 435	Gly	caa Gln	Gly	acc	acg Thr 440	Val	acc Thr	gto Val	tco Ser	tca Ser 445	Gly	gga Gly	ggc Gly	1344
Gly	9 Ser 450	Gly	, Gly	, Gly	Gly	Ser 455	Gly	Gly	Gly	, Gly	7 Ser 460	Asp) Ile	e Val	ctg Leu	1392
acc Thr 465	Glr	g tct n Ser	cca Pro	a aaa D Lys	tcc Ser 470	Met	gcc Ala	atg Met	tca Ser	yto Val 475	Cl3	ı gaç 7 Glı	g agg	g gto g Val	t acc Thr 480	1440
tto Lei	g ago 1 Sei	c tgo	c aag s Lys	g gcc s Ala 485	. Ser	gag Glu	g aat 1 Asr	gtg Val	gat As <u>r</u> 490	Se	ttt Phe	gtt Val	tco Sei	tgg Tr _I 499	tat Tyr	1488
caa Gl:	a caq n Gli	g aaa n Lys	a cca s Pro 500	o Gly	cag Glr	tct Sei	cet Pro	aaa Lys 505	s Let	g cto ı Le	g ata ı Ile	a tao e Tyi	999 Gly 510	, Ala	tcc a Ser	1536

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aac cgg tac act ggg gtc ccc gat cgc ttc gca ggc agt gga tct gg Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ala Gly Ser Gly Ser Gl 515 aga gat ttc act ctg acc atc agc agt gtg cag gct gaa gac ctt gc Arg Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Al	ta 1632
gat tat cac tgt gga cag aat tac agg tat ccg ctc acg ttc ggt gc Asp Tyr His Cys Gly Gln Asn Tyr Arg Tyr Pro Leu Thr Phe Gly Al 545 550 555 56	
ggc acc aag ctg gaa atc aaa cgg gcg gcc gca ggg ccc gaa caa aa Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Gly Pro Glu Gln Ly 565 570 575	aa 1728 ys
ctc atc tca gaa gag gat ctg aat agc gcc gtc gac cat cat cat cat Leu Ile Ser Glu Glu Asp Leu Asn Ser Ala Val Asp His His His His 580 585 590	at 1776 is
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Glu Pro Leu Gly Leu Glu Ala Asp Met Trp Ser Ile Gly Val Ile Thr
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Tyr Ile Leu Leu Ser Gly Ala Ser Pro Phe Leu Gly Asp Thr Lys Gln
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Phe Phe Ser Gln Thr Ser Glu Leu Ala Lys Asp Phe Ile Arg Lys Leu
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Leu Val Lys Glu Thr Arg Lys Arg Leu Thr Ile Gln Glu Ala Leu Arg
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His Pro Trp Ile Gly Ser Lys Leu Ala Glu His Glu Gly Asp Ala Ala
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Gln Pro Ala Met Ala Gln Val Lys Leu Gln Glu Ser Gly Thr Glu Leu
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Ala Lys Pro Gly Ala Ala Val Lys Met Ser Cys Lys Ala Ser Gly Tyr
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Thr Phe Thr Asp Tyr Trp Met His Trp Val Lys Gln Arg Pro Gly Gln
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Tyr Asn Gln Lys Phe Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser
                                        395
                    390
Ser Ser Thr Ala Tyr Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Ser
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Ala Val Tyr Tyr Cys Ala Lys Lys Thr Thr Gln Thr Thr Trp Gly Phe
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Pro Phe Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly
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Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Leu
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Thr Gln Ser Pro Lys Ser Met Ala Met Ser Val Gly Glu Arg Val Thr
                                         475
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Leu Ser Cys Lys Ala Ser Glu Asn Val Asp Ser Phe Val Ser Trp Tyr
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Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser
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Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ala Gly Ser Gly Ser Gly
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Arg Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala
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                                             540
Asp Tyr His Cys Gly Gln Asn Tyr Arg Tyr Pro Leu Thr Phe Gly Ala
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Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Gly Pro Glu Gln Lys
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His His
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Gly Ser Thr Gly Asp Ala Ala Gln Pro Ala Met Ala Gln Val Lys Leu
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cag gag tca ggg act gaa ctg gca aag cct ggg gcc gca gtg aag atg
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Gln Glu Ser Gly Thr Glu Leu Ala Lys Pro Gly Ala Ala Val Lys Met
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Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Trp Met His Trp
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Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Tyr Ile Asn
cct aac act gct tat act gac tac aat cag aaa ttc aag gac aag gcc
                                                                   288
Pro Asn Thr Ala Tyr Thr Asp Tyr Asn Gln Lys Phe Lys Asp Lys Ala
aca ttg act gca gac aaa tcc tcc agc aca gcc tac atg caa ctg cgc
                                                                   336
Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Arg
age etg ace tet gag gat tet gea gte tat tae tgt gea aaa aag aca
                                                                   384
Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Lys Lys Thr
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 act cag act acg tgg ggg ttt cct ttt tgg ggc caa ggg acc acg gtc
                                                                   432
 Thr Gln Thr Trp Gly Phe Pro Phe Trp Gly Gln Gly Thr Thr Val
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 acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggt ggc tct ggc ggt
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 Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly
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tca Ser	gtc Val	gga Gly	gag Glu 180	agg Arg	gtc Val	acc Thr	ttg Leu	agc Ser 185	tgc Cys	aag Lys	gcc Ala	agt Ser	gag Glu 190	aat Asn	gtg Val	576
gat Asp	tct Ser	ttt Phe 195	gtt Val	tcc Ser	tgg Trp	tat Tyr	caa Gln 200	cag Gln	aaa Lys	cca Pro	ggc Gly	cag Gln 205	tct Ser	cct Pro	aaa Lys	624
ctg Leu	ctg Leu 210	ata Ile	tac Tyr	Gly 333	gcc Ala	tcc Ser 215	aac Asn	cgg Arg	tac Tyr	act Thr	ggg Gly 220	gtc Val	ccc Pro	gat Asp	cgc Arg	672
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gtg Val	cag Gln	gct Ala	gaa Glu	gac Asp 245	ctt Leu	gca Ala	gat Asp	tat Tyr	cac His 250	tgt Cys	gga Gly	cag Gln	aat Asn	tac Tyr 255	agg Arg	768
tat Tyr	ccg Pro	ctc Leu	acg Thr 260	ttc Phe	ggt Gly	gct Ala	ggc Gly	acc Thr 265	aag Lys	ctg Leu	gaa Glu	atc Ile	aaa Lys 270	Arg	gcg Ala	816
														cca Pro	aat Asn	864
atg Met	gag Glu 290	acg Thr	ttc Phe	aaa Lys	cag Gln	cag Gln 295	aag Lys	gtg Val	gag Glu	gac Asp	ttt Phe 300	tat Tyr	gat Asp	att Ile	gga Gly	912
gag Glu 305	gag Glu	ctg Leu	ggc	agt Ser	ggc Gly 310	cag Gln	ttt Phe	gcc Ala	atc Ile	gtg Val 315	aag Lys	aag Lys	tgc Cys	cgg Arg	gag Glu 320	960
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agc Ser	cgg Arg	gcc Ala	agc Ser 340	cgt Arg	cgg Arg	ggc	gtg Val	tgc Cys 345	Arg	gag Glu	gaa Glu	ato Ile	gag Glu 350	Arg	gag Glu	1056
gtg Val	agc Ser	atc Ile 355	Leu	cgg Arg	cag Gln	gtg Val	ctg Leu 360	His	ccc	aac Asn	atc Ile	ato 11e 365	Thr	ctg Leu	cac His	1104
gac Asp	ctc Leu	tat Tyr	gag Glu	aac Asn	cgc Arg	acc Thr	gac Asp	gtg Val	gtg Val	ctc Leu	ato	ctt Leu	gag Glu	g cta Leu	gtg Val	1152

370 375 380

	370					375					300					
tcc Ser 385	gga Gly	gga Gly	gaa Glu	ctg Lieu	ttt Phe 390	gat Asp	ttc Phe	ctg Leu	gcc Ala	cag Gln 395	aag Lys	gag Glu	tcg Ser	tta Leu	agt Ser 400	1200
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gac Asp	ttt Phe 450	ggc Gly	ctg Leu	gct Ala	cac His	gaa Glu 455	ata Ile	gaa Glu	gat Asp	gga Gly	gtt Val 460	gaa Glu	ttt Phe	aaa Lys	aac Asn	1392
att Ile 465	ttt Phe	Gly	aca Thr	cct Pro	gaa Glu 470	ttt Phe	gtt Val	gct Ala	cca Pro	gaa Glu 475	atc Ile	gtg Val	aac Asn	tat Tyr	gag Glu 480	1440
cca Pro	ctg Leu	gga Gly	ctg Leu	gag Glu 485	gcc Ala	gac Asp	atg Met	tgg Trp	agc Ser 490	att Ile	gga Gly	gtc Val	atc Ile	acc Thr 495	tat Tyr	1488
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Thr	Leu	Ala 515	Asn	atc Ile	Thr	Ala	Val 520	Ser	Tyr	Asp) Phe	525	Glu	Glu	Phe	1584
Phe	Ser 530	Gln	Thr	Ser	Glu	Leu 535	Ala	Lys	Asp	Phe	11e 540	Arg	l Lys	Leu	ctt Leu	1632
Val 545	Lys	Glu	Thr		Lys 550	Arg	Leu	Thr	: Ile	555	ı Glu	ı Ala	. Leu	ı Arg	His 560	1680
Pro	Trp) Ile	e Gly	Ser 565	Lys	Leu	ı Ala	Glu	1 His	Glu	ı Phe	e Arg	g Gly	7 Gly 575		1728
gaa Glu	a caa 1 Glr	aaa Lys	teto Lev 580	ı Ile	tca Ser	gaa Glu	ı gagı ı Glu	gat As <u>r</u> 585	Let	g aat 1 Asi	ago n Sei	c gco r Ala	gto a Val 590	L Asp	cat His	1776
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Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Trp Met His Trp
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Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Tyr Ile Asn
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Pro Asn Thr Ala Tyr Thr Asp Tyr Asn Gln Lys Phe Lys Asp Lys Ala
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Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Arg
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Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Lys Lys Thr
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Thr Gln Thr Thr Trp Gly Phe Pro Phe Trp Gly Gln Gly Thr Thr Val
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Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly
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Gly Gly Ser Asp Ile Val Leu Thr Gln Ser Pro Lys Ser Met Ala Met
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Ser Val Gly Glu Arg Val Thr Leu Ser Cys Lys Ala Ser Glu Asn Val
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Asp Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys
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Phe Ala Gly Ser Gly Ser Gly Arg Asp Phe Thr Leu Thr Ile Ser Ser
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Val Gln Ala Glu Asp Leu Ala Asp Tyr His Cys Gly Gln Asn Tyr Arg
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Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys Arg Ala
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Ala Ala Leu Glu Ser Arg Met Val Gln Ala Ser Met Arg Ser Pro Asn
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Glu Glu Leu Gly Ser Gly Gln Phe Ala Ile Val Lys Lys Cys Arg Glu
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Lys Ser Thr Gly Leu Glu Tyr Ala Ala Lys Phe Ile Lys Lys Arg Gln
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Ser Arg Ala Ser Arg Gly Val Cys Arg Glu Glu Ile Glu Arg Glu
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Val Ser Ile Leu Arg Gln Val Leu His Pro Asn Ile Ile Thr Leu His
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Tyr Leu His Thr Lys Lys Ile Ala His Phe Asp Leu Lys Pro Glu Asn
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Ile Met Leu Leu Asp Lys Asn Ile Pro Ile Pro His Ile Lys Leu Ile
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Ile Phe Gly Thr Pro Glu Phe Val Ala Pro Glu Ile Val Asn Tyr Glu
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Ile Leu Leu Ser Gly Ala Ser Pro Phe Leu Gly Asp Thr Lys Gln Glu
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Thr Leu Ala Asn Ile Thr Ala Val Ser Tyr Asp Phe Asp Glu Glu Phe
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Phe Ser Gln Thr Ser Glu Leu Ala Lys Asp Phe Ile Arg Lys Leu Leu
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Val Lys Glu Thr Arg Lys Arg Leu Thr Ile Gln Glu Ala Leu Arg His
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Pro Trp Ile Gly Ser Lys Leu Ala Glu His Glu Phe Arg Gly Gly Pro
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His His His His His
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